



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,393	06/12/2006	Takanori Sugiyama	P30089	6011
7055 7590 09/19/2007 GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			EXAMINER SONG, SARAH U	
			ART UNIT 2874	PAPER NUMBER
			NOTIFICATION DATE 09/19/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com  
pto@gbpatent.com

## Office Action Summary

**Application No.**

10/596,393

**Applicant(s)**

SUGIYAMA ET AL.

**Examiner**

Sarah Song

**Art Unit**

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>0307</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Applicant's communication filed on July 3, 2007 has been carefully considered and placed of record in the file.

#### ***Information Disclosure Statement***

2. The prior art documents submitted by the applicant in the Information Disclosure Statement filed on March 29, 2007 all been considered and made of record (note the attached copy of form PTO-1449).

#### ***Claim Objections***

3. Claim 1 is objected to because of the following informalities: Examiner suggests inserting –integrally formed— before “collimating” in line 8 to provide proper antecedent basis for the limitation in the last line of the claim. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1 and 3-16 rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (U.S. Patent 6,647,173 previously relied upon) in view of Makio (U.S. Patent Application Publication 2003/0053744 previously relied upon) and O'Toole et al. (U.S. Patent Application Publication 2003/0138219 newly cited).**
6. Regarding claims 1 and 3-16, Chen et al. discloses an optical switch for switching combinations of optical paths between a plurality of optical fibers, comprising; at least three

Art Unit: 2874

optical fibers 11-14, and a switching optical block 99 housed in the device body so as to be optically coupled to the respective optical fibers, the optical block 30 comprising: a lens block 32 having one surface side to place the optical fibers on, and having a plurality of collimating lenses 17-18 placed side by side; a prism 22 which is placed distantly from the lens block on the other surface side of the lens block such that the direction of travel of light incident from the optical fibers through the collimating lens is changed to be directed toward a further optical fiber; a switching mirror 21 placed to be insertable and removable into and from between the lens block and the prism; and an actuator 23 for driving the mirror. The lens block 32 has a plurality of collimating lenses 17 and 18. The lens block has fixed thereto ferrules 15 and 16 holding the respective optical fibers, respectively. The bonding surfaces between the lens block and the ferrules are formed by planes 151, 161, 171, 181 inclined at an angle to at least some extent relative to planes perpendicular to axes of passing light beam. The optical block comprises one optical bench 31 contained in and mounted on a device body for positioning and fixing the lens block, the prism and the actuator.

7. Chen et al. does not expressly disclose a device body with at least three optical fibers being led out therefrom. However, Makio discloses an optical switch comprising a device body 10 with at least three optical fibers being led out therefrom and a switching optical block housed therein. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the device body of Makio within which the switching body of Chen et al. would have been housed for the purpose of providing protection from the environment (including external stray light, humidity, etc.) and a rugged support structure for the switching assembly including the fibers extending therefrom as was known in the art.

Art Unit: 2874

8. Regarding the integrally formed lens block, it is also noted that the manner in which a device is made is not germane to the issue of patentability of the device itself. Furthermore, it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. Additionally, integrally formed lenses would be beneficial for the purpose of reducing the number of components for assembly.

9. Alternatively, although Chen et al. also does not disclose the lens block to be integrally formed. However, O'Toole et al. discloses an optical module comprising an integrally formed lens block. O'Toole et al. further discloses the integrally formed lens block to be advantageous for simplifying manufacture and assembly (§0065). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the optical block of Chen et al. to comprise an integrally formed lens block for the purpose of simplifying manufacture and assembly of the optical block.

10. In conclusion, the above-identified differences between the subject matter sought to be patented and the U.S. Patent to Chen et al. are such that the subject matter, **considered as a whole**, would have been obvious at the time the invention was made to a person having ordinary skill in the art.

#### ***Response to Arguments***

11. Applicant's arguments filed July 3, 2007 have been fully considered but they are not persuasive. Applicant states that neither Chen et al. nor Makio disclose or suggest an integrally formed lens block. However, integrally formed lens blocks are well known in the art and the integration of discrete components is generally held to require only routine skill in the art as stated in the rejection of the previous Office Action. However, for further support, the O'Toole

et al. has been cited to provide factual basis for the rejection and to provide clear teaching of the motivation to modify the prior art as set forth in the rejection above.

***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Song whose telephone number is 571-272-2359. The examiner can normally be reached on M-Th 7:30am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2874

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sarah U. Song/  
Sarah Song  
Primary Examiner  
Art Unit 2874